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Original Research

Explanatory Model of Self-Efficacy for Cervical Cancer Screening

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Abstract

Background: Cervical cancer (CC) screening is a public health concern, and social conditions partially explain the individual's ability to respond to the preventive aspect of the disease. This study aims to design an explanatory model of self-efficacy (SE) for CC screening. **Methods**: This study was conducted on 969 women aged 25–64 years who used the public health care system in Santiago, Chile. Multiple linear regression analysis was conducted to generate the explanatory model for global SE index and for each of their components as function of sociodemographic factors, factors related to interaction with the health system, risk factors for CC, family functioning, and the knowledge and beliefs of women regarding the disease and its prevention. **Results**: The factors that explain high levels of SE are low levels of education and knowledge of the risk factors of CC, better beliefs about the barriers to and benefits of a Papanicolaou (Pap) test, participation in breast cancer screening, and highly functional family Apgar. **Conclusions**: To administer as many CC screening as possible, achieve effective interventions, and reach optimal coverage rates, it is necessary to consider social determinants, collaborate with other cancer screening programs, and work toward the beliefs of the population.

Keywords: Papanicolaou test; self-efficacy; uterine cervical neoplasms

1. Introduction

Globally, cervical cancer (CC) is the fourth most common cancer among women [1]. The incidence of CC can be reduced by up to 90% using good-quality screening procedures and by achieving a coverage rate of more than 80% [2]. The World Health Organization (WHO) global strategy sets three targets to be achieved by the year 2030 to put all countries on the pathway to elimination in the coming decades: 90% of girls vaccinated with the human papilloma virus (HPV) vaccine by age 15; 70% of women screened with a high-quality test by ages 35 and 45; 90% of women with cervical disease receiving treatment. Precancers rarely cause symptoms, which is why regular CC screening is important [1,3].

Adherence is a crucial indicator that implies the individual willingness to take cervical cancer screening [4]. In 2019, the adherence was at 33.66% worldwide, and was higher in high income countries (75.66%) than in low and middle-income countries (24.91%). Chile adherence to CC screening during 2021 was 42.4% [5].

Regular screening is crucial to ensure screening effectiveness [4]. Various studies have investigated the causes underlying the low coverage rate [6–10] and the interventions to increase the rate [11–13]. Although the elements of the social context are evident within the framework of the social determinant model of the WHO [14–17], limited research has been conducted on the basis of intermediary factors within the control of individuals that influence the expected health behavior, i.e., adherence to the Papanicolaou (Pap) test [18]. Self-efficacy (SE) is a focal determinant because it affects health behavior both directly and by influencing other determinants [19].

According to Bandura *et al.* [19–21], individuals are proactive and in control of their behavior instead of reactive and in control of environmental or biological forces; however, they tend to attribute failure in different behaviors to external factors. This suggests the need to analyze the SE of women toward the Pap test. SE refers to a person's confidence in his or her ability to successfully undertake a specific action [22]. The level of SE influences decision making, the extent of effort, and the duration of persistence in conducting a certain behavior [20]. Other scholars also examined the relationship between SE and adherence to Pap [23–25] and found that high levels of SE predict adherence to screening [26–31] as well as intention [28,32,33]. Thus, this study aimed to design an explanatory model of SE to evaluate the adherence to Pap.

2. Materials and Methods

This study conducted a secondary data analysis of the National Fund for Scientific and Technological Development #11,130,626 project on the social determinants of adherence to Pap test. The original study included women aged 25–64 years who were covered under the Chilean public health system (National Health Fund [FONASA]) and registered in one of the four primary health care centers of

Table 1. Descriptive statistics of the sample.

	Mean (SD)	p10–p90
Age (years)	43.47 (10.78)	
Educational level (years)	10.97 (3.40)	
Per capita income monthly (USD)[a]	115	47–270
Number of children	2.33 (1.28)	
Age at first intercourse	18.42 (3.57)	
Number of partners[a]	2	1–5
Self-efficacy questionnaire (20 items)	34.56 (14.67)	
Personal costs (10 items)	21.6 (10.28)	
Relationship (8 items)	12.96 (5.36)	
Knowledge questionnaire (65 items)	4	0–17
Location[a] (3 items)	0	0–1
Detection[a] (3 items)	0	0–2
Risk[a] (15 items)	1	0–5
Transmission[a] (4 items)	0	0–2
Prevention[a] (4 items)	1	0–3
Symptoms[a] (6 items)	0	0–0
Pap smear knowledge[a] (3 items)	0	0–1
Pap smear requirements[a] (8 items)	0	0–1
Pap smear frequency[a] (5 items)	0	0–1
Types of vaccine[a] (3 items)	0	0–1
Vaccine requirements[a] (6 items)	0	0–1
Vaccine dose[a] (5 items)	0	0–1
Beliefs questionnaire (28 items)	85.45 (8.43)	
Barriers to Pap (9 items)	25.4 (4.35)	
Cues to action (6 items)	16.07 (3.63)	
Severity of CC (4 items)	14.32 (1.88)	
Pap requirements (3 items)	9.28 (1.41)	
Susceptibility to CC (3 items)	9.6 (1.53)	
Benefits (3 items)	10.78 (1.34)	

[a] The values are median and percentiles. Pap, Papanicolaou; CC, cervical cancer; USD, United States dollar; SD, standard deviation.

the Puente Alto commune in Santiago, Chile. The sample was selected and stratified by health centers and Pap test coverage levels. According to Pap test coverage data, four primary health care centers were randomly selected with probabilities proportional to their size, one from each group: with the highest coverage, medium-high coverage, medium-low coverage, and low coverage. Using an online calculator and the methodology described by Soper [34], to achieve a small effect size of 0.1 (relationships between instruments), a power of 80%, 15 latent and 40 observed variables, and a level of reliability of 95%, approximately 850 women needed to be interviewed. The sample size of this study was 969 patients. The inclusion criteria were the characteristics of women included in the afore mentioned study. The exclusion criteria were the presence of CC and/or total hysterectomy. In this secondary data analysis, the sample size was 969 cases. In the following analysis, the dependent variable was SE for adherence to Pap, and the independent variables were sociodemographic factors, factors related to interaction with the health system, risk factors for CC, family functioning, and the knowledge and beliefs of women regarding the disease and its prevention. SE in adhering to the Pap was measured using the original Self-Efficacy Scale for Pap Smear Screening Participation (SES-PSSP) [35], which was previously validated in the Chilean population (Cronbach's alpha = 0.95) [36]. The questionnaire comprises 20 questions distributed into two dimensions: personal cost (e.g., time, money, transportation, and life interruption) and relationships (e.g., opinions of family members and peers; the higher the score, the lower the SE). According to the original recommendation of the author of the questionnaire, 2 items can be added in case the interviewed woman has children and can leave them alone; given that these items are not applicable to all women, the original version does not include them in the dimensions described above and therefore they were not included in this research either. To assess knowledge about CC and its screening, this study used the previously validated knowledge in Cervical Cancer questionnaire (CEC-66) with a Cronbach's alpha = 0.83 [37]. The scale comprises 66 items, which were distributed

Table 2. Descriptive categorical variables of the sample.

	n	%
Adherence to the Pap test in the last 3 years	741	76.5
Paid employment	617	63.7
Relationship status (with a partner)	767	79.2
Has children	904	93.3
Participation in the preventive medicine program (PMP)	336	34.7
Adherence to breast cancer screening[a]		
Yes	220	91.3
No	21	8.7
Adherence to gallbladder cancer screening[a]		
Yes	188	46.9
No	213	53.1
Contact with health care professional (HCP) in the last year	739	76.3
Sexual activity	722	74.5
History of sexually transmitted diseases (STD)	73	7.5
History of cervical cancer in the family	176	18.16
Condom use		
Always	65	6.8
Almost always	85	8.8
Hardly ever	102	10.6
Never	709	73.8
Homeowner	614	63.4
Overcrowding	105	10.8
Family Apgar		
Severely dysfunctional	73	7.5
Moderately functional	144	14.9
Highly functional	752	77.6
Indigenous people	77	7.9
Cardiovascular diseases	198	20.4
Metabolic diseases	180	18.6
Neuropsychiatric diseases	58	6
Tobacco	379	39.1
Alcohol	338	34.9

[a] The results were calculated for the target group.

into 12 dimensions (location, detection, risk, transmission, prevention, symptoms, Pap smear knowledge, Pap smear requirements, Pap smear frequency, types of vaccine, vaccine requirements, and vaccine dose). The obtained scores were positively correlated with the level of knowledge. To measure beliefs, the study employed previously validated CPC-28 [38], with a Cronbach's alpha = 0.90, which comprises 28 items categorized under six dimensions (barriers to Pap, cues to action, severity of CC, Pap requirements, susceptibility to CC, and benefits). The obtained scores were positively correlated with the belief. To measure family functioning, the family Apgar validated in the Chilean population was used. The scale comprises four items that are included in one dimension [39]. For data analysis, SPSS version 22 (IBM Corp, Armonk, NY, USA) and R software version 1.0.1 (R Core Team, Vienna, Austria) were used to determine frequency, measures of central tendency, and variability. Furthermore, Pearson's and Spearman's correlation coefficients were calculated. Groups were compared using Fisher's exact test, *t*-test was used for independent samples. One-way analysis of variance and Levene's test were used to determine equality of variance. Multiple linear regression analysis was conducted to generate the explanatory model. The selection variables were identified using the Bayesian information criterion (BIC), and significance was set at $p < 0.05$.

3. Results

The average age of the included participants was 43.47 $\pm$ 10.78 years, and 76.5% reported adherence to the Pap test in the last 3 years. The mean of SE score was 34.56 $\pm$ 14.67. The SE score ranged from 18 (representing 100% SE) to 90 (representing 0% SE). The mean SE was 77% (Tables 1,2).

Table 3 shows the mean scores and standard deviations for the socioeconomic, morbidity, and lifestyle characteristics of the population. In cases where the analysis of

Table 3. Self-efficacy (SE) scores according to sample characteristics.

	Answer	n	SE total score		Personal cost		Relationship	
			Mean (SD)	*p* value	Mean (SD)	*p* value	Mean (SD)	*p* value
Relationship status	Yes	767	34.49 (14.59)	0.767	21.61 (10.29)	0.987	12.89 (5.26)	0.423
	No	202	34.84 (15.02)		21.59 (10.27)		13.24 (5.73)	
Paid employment	Yes	617	35.05 (14.90)	0.174	21.82 (10.42)	0.385	13.23 (5.43)	0.040
	No	352	33.72 (14.23)		21.22 (10.04)		12.49 (5.23)	
Children	Yes	904	34.15 (14.51)	0.001	21.35 (10.21)	0.005	12.80 (5.28)	<0.001
	No	65	40.29 (15.80)		25.09 (10.70)		15.20 (5.97)	
Participation in PMPs	Yes	336	31.36 (13.18)	<0.001	19.48 (9.45)	<0.001	11.88 (4.70)	<0.001
	No	633	36.26 (15.14)		22.73 (10.54)		13.53 (5.60)	
Breast cancer screening	Yes	548	31.61 (13.56)[a]	<0.001	19.70 (9.62)[a]	<0.001	11.91 (4.81)[a]	<0.001
	No	21	45.48 (13.89)[b]		29.14 (9.72)[b]		16.33 (5.89)[b]	
	NA	400	38.04 (15.17)[b]		23.82 (10.58)[b]		14.22 (5.71)[b]	
Gallbladder cancer screening	Yes	480	32.86 (14.13)[a]	<0.001	20.44 (10.04)[a]	0.001	12.42 (5.01)[a]	0.001
	No	213	34.77 (14.47)[ab]		21.86 (10.11)[ab]		12.91 (5.36)[ab]	
	NA	276	37.37 (15.34)[b]		23.43 (10.59)[b]		13.94 (5.83)[b]	
Contact with HCP last year	Yes	230	38.65 (15.60)	<0.001	24.40 (10.89)	<0.001	14.25 (5.72)	<0.001
	No	739	33.29 (14.14)		20.74 (9.94)		12.56 (5.18)	
History of STD	Yes	73	30.84 (13.06)	0.024	19.49 (9.39)	0.068	11.34 (4.69)	0.003
	No	896	34.87 (14.76)		21.78 (10.34)		13.09 (5.40)	
Sexual activity	Yes	722	34.56 (14.73)	0.998	21.59 (10.34)	0.951	12.97 (5.36)	0.912
	No	247	34.57 (14.51)		21.64 (10.14)		12.93 (5.38)	
History of CC in the family	Yes	176	33.13 (14.82)	0.150	20.81 (10.38)	0.255	12.32 (5.37)	0.079
	No	793	34.88 (14.62)		21.78 (10.26)		13.10 (5.35)	
Adherence to Pap test last three years	Yes	741	31.96 (13.42)	<0.001	19.91 (9.60)	<0.001	12.05 (4.79)	<0.001
	No	228	43.02 (15.40)		27.10 (10.54)		15.92 (6.02)	
Condom use	Always	65	33.82 (15.73)	0.132	20.65 (10.50)	0.094	13.17 (5.97)	0.105
	Almost always	85	33.56 (13.87)		20.18 (9.34)		13.39 (5.53)	
	Hardly ever	102	37.75 (16.22)		23.71 (11.34)		14.05 (5.94)	
	Never	709	34.39 (14.58)		21.42 (10.13)		12.65 (5.13)	
Homeowner	Yes	614	33.58 (13.77)	0.008	21.00 (9.70)	0.020	12.58 (5.03)	0.006
	No	355	36.26 (15.99)		22.65 (11.16)		13.61 (5.84)	
Overcrowding	Yes	105	36.93 (16.08)	0.080	23.56 (10.96)	0.039	13.37 (6.07)	0.405
	No	864	34.28 (14.47)		21.37 (10.18)		12.91 (5.27)	
Family Apgar	Severely dysfunctional	73	39.07 (15.58)		24.58 (10.94)		14.49 (5.85)	
	Moderately functional	144	39.54 (15.16)	<0.001	25.44 (10.75)	<0.001	14.10 (5.43)	0.001
	Highly functional	752	33.17 (14.20)		20.58 (9.90)		12.59 (5.25)	
Indigenous people	Yes	77	31.69 (12.51)	0.041	19.73 (9.01)	0.063	11.96 (4.42)	0.046
	No	892	34.81 (14.82)		21.77 (10.38)		13.05 (5.43)	
Cardiovascular disease	Yes	198	32.93 (13.19)	0.058	20.57 (9.31)	0.089	12.36 (4.83)	0.057
	No	771	34.98 (15.01)		21.87 (10.51)		13.11 (5.48)	
Metabolic disease	Yes	180	32.58 (13.68)	0.035	20.52 (9.86)	0.116	12.06 (4.99)	0.009
	No	789	35.02 (14.86)		21.85 (10.37)		13.16 (5.43)	
Neuropsychiatric disease	Yes	58	33.59 (15.15)	0.601	21.55 (11.02)	0.968	12.03 (5.26)	0.175
	No	911	34.63 (14.64)		21.61 (10.24)		13.02 (5.37)	
Tobacco	Yes	379	34.25 (14.71)	0.597	21.38 (10.32)	0.581	12.88 (5.28)	0.697
	No	590	34.76 (14.65)		21.75 (10.27)		13.01 (5.42)	
Alcohol	Yes	338	35.61 (15.07)	0.104	22.14 (10.48)	0.239	13.48 (5.48)	0.028
	No	631	34.00 (14.43)		21.32 (10.17)		12.68 (5.28)	

NA, not applicable; [a,b] Values with the same vowels are nonsignificant; values with different vowels are significant.

variance (ANOVA) test is performed, only the *p* value of the omnibus test is shown, without post-hoc comparisons being made. Table 3 indicates that having children, participating in preventive medicine programs, undergoing breast and gallbladder cancer screening, having a history of a sexually transmitted disease, having undergone a Pap test, owning a

Table 4. Correlations of SE score with sample characteristics.

	n	SE total score		Score for personal cost		Score for relationship	
		Correlation	*p* value	Correlation	*p* value	Correlation	*p* value
Age (years)	969	−0.173	<0.001	−0.147	<0.001	−0.191	<0.001
Number of children[a]	969	−0.029	0.361	−0.018	0.583	−0.063	0.051
Education (years)	969	0.086	0.007	0.059	0.065	0.122	<0.001
Age at first intercourse	959	−0.028	0.384	−0.011	0.737	−0.056	0.082
Number of partners[a]	962	0.035	0.273	0.027	0.406	0.063	0.0497
Frequency of condom use	961	−0.016	0.612	0.004	0.907	−0.058	0.075
Knowledge questionnaire[a]	942	0.062	0.058	0.076	0.020	0.036	0.269
Location[a]	969	0.046	0.153	0.054	0.091	0.022	0.497
Detection[a]	968	0.057	0.078	0.059	0.066	0.052	0.107
Risk factor[a]	959	0.089	0.006	0.096	0.003	0.069	0.033
Transmission[a]	962	0.013	0.698	0.028	0.380	−0.005	0.889
Prevention[a]	965	0.021	0.512	0.044	0.171	−0.019	0.565
Symptoms[a]	964	−0.005	0.880	−0.006	0.848	−0.002	0.955
Pap smear knowledge[a]	968	−0.008	0.809	0.003	0.927	−0.023	0.482
Pap smear requirements[a]	967	−0.011	0.743	−0.007	0.833	−0.020	0.533
Pap smear frequency[a]	969	−0.061	0.059	−0.056	0.084	−0.052	0.107
Types of vaccine[a]	960	0.058	0.071	0.063	0.053	0.041	0.203
Vaccine requirements[a]	964	0.002	0.960	0.012	0.714	−0.007	0.833
Vaccine dose[a]	968	0.015	0.636	0.023	0.479	0.001	0.964
Beliefs questionnaire	968	−0.082	0.011	−0.063	0.050	−0.103	0.001
Barriers to Pap	968	−0.375	<0.001	−0.364	<0.001	−0.326	<0.001
Cues to action	968	0.026	0.421	0.023	0.471	0.032	0.320
Severity of CC	968	−0.023	0.484	0.002	0.958	−0.064	0.045
Requirements to Pap	969	−0.167	<0.001	−0.145	<0.001	−0.183	<0.001
Susceptibility to CC	966	−0.055	0.085	−0.041	0.208	−0.076	0.018
Benefits	969	−0.073	0.024	−0.045	0.166	−0.111	0.001

[a] Spearman's correlation.

home, being indigenous women, having a highly functional family Apgar, and having a metabolic disease are characteristics associated with high levels of SE. Overcrowding as a family condition was associated with low SE levels in terms of personal cost; alcohol consumption and paid employment were associated with low SE levels in terms of relationship. Notably, women who had contact with a health care professional (HCP) during the last year exhibited high levels of SE in the three scores (total, personal cost and relationship).

The higher the age, the lower the SE score; therefore, the higher the SE; the opposite occurs with level of education, i.e., the higher the level of education, the lower the level of SE (Table 4). In the knowledge questionnaire, only one dimension was correlated with SE, which indicates that the higher the score for knowledge, the higher the SE score, and therefore the lower the SE. According to the results of the correlations of the beliefs questionnaire, three (barriers, benefit, and requirements) of the six dimensions were correlated with the total score for SE, which demonstrates that the higher the score for beliefs, the lower the score for SE, and, therefore, higher the SE.

This study developed an explanatory model based on the studied variables. Based on the BIC, the study selected the variables from the model. The variables in Table 5 were selected to establish the final model for total scores for SE and the two dimensions. The predictive value of the SE models ranged between 19% and 23%. Of the total variables in the final model, five can be found in the three models. The factors that explained the high levels of SE were low levels of education and knowledge about the risk factors of CC, better beliefs about the barriers to and benefits of Pap, participation in breast cancer screening, and a highly functional family Apgar. The age and history of sexually transmitted diseases are the other factors that explained SE from the relationship dimension.

4. Discussion

From the behaviorist approach, Bandura [21] suggested SE as an element for determining the individual capacity to respond to a preventive aspect. Analysis of the factors that predict adherence to the Pap is relevant for the reduction of morbidity and mortality due to CC. It is important to recognize that most research has been conducted on how SE predicts adherence to CC screening; however, lim-

Table 5. Final models for scores for SE and the personal cost and relationship dimensions.

Variables	Total score for SE			Personal cost			Relationship		
	R-squared: 0.2357			R-squared: 0.2178			R-squared: 0.1975		
	Adjusted R-squared: 0.2291			Adjusted R-squared: 0.2119			Adjusted R-squared: 0.1907		
	Estimate	St. Error	*p* value	Estimate	St. Error	*p* value	Estimate	St. Error	*p* value
Intercept	67.0157	4.4191	<0.001	37.6739	2.0090	<0.001	31.08880	1.84150	<0.001
Age (years)	–	–	–	–	–	–	−0.08259	0.01558	<0.001
Education (years)	0.5041	0.1302	<0.001	0.29057	0.09207	0.00165	0.17163	0.05054	<0.001
Knowledge questionnaire–risk factor dimension	0.9471	0.1886	<0.001	0.57890	0.12499	<0.001	0.29264	0.07075	<0.001
Beliefs questionnaire—barrier dimensions	−1.2515	0.1024	<0.001	−0.89205	0.07197	<0.001	−0.39723	0.03808	<0.001
Beliefs questionnaire—benefit dimensions	−1.0568	0.3478	0.002446	–	–	–	−0.65676	0.13025	<0.001
History of sexually transmitted infection	–	–	–	–	–	–	−1.64616	0.60019	0.006209
Breast cancer screening—no participation[a]	7.6139	2.9968	0.011224	5.48535	2.11941	0.00980	–	–	–
Breast cancer screening—not applicable[a]	5.1756	0.8737	<0.001	3.35402	0.61931	<0.001	–	–	–
Familiar Apgar—severely dysfunctional[b]	5.5009	1.6124	<0.001	3.42993	1.14101	0.00272	2.19375	0.60570	<0.001
Familiar Apgar—moderately dysfunctional	5.5306	1.1980	<0.001	4.18391	0.84925	<0.001	1.36649	0.44992	0.002455

[a] The reference category for breast cancer screening is participation.

[b] Family Apgar: the reference category is highly functional.

ited studies have been conducted on the predictors of SE for Pap. Therefore, the major contribution of this study is the explanatory model that provides information on SE for Pap, which can be used in clinical and research settings. However, the model only explains 23% of the variable, which indicates that variables not examined in this study should be examined as predictors of SE. The main limitation of this study is its cross-sectional nature where a temporality of the variables was assumed. Therefore, longitudinal studies for validating the reported results are warranted.

A woman who is self-efficacious in taking Pap will more likely adhere to the screening. This study demonstrated the relationship between SE and adherence to Pap screening, as described in previous studies [23–25,27,28]. Therefore, obtaining high levels of SE is an important target that must be considered in future interventions for CC prevention.

The study results are consistent with previously reported findings on SE predictors; however, the difference is the direction in which some variables were studied, such as education and knowledge of women. The level of education has been described as a predictor of SE [40,41], and it is one of the most important variables described in the literature related to CC screening [25]. Thus, it can be expected that high education levels indicate greater SE [40]. However, our study yielded contrasting results. This difference can be attributed to the highly demanding work environment of women with a high education level, which makes them less capable of attending screening. Notably, the univariate analysis revealed that, specifically in the relationship dimension, the presence of paid work is related with low levels of SE.

Previous studies have reported a relationship between knowledge and SE [18,23,25,41]; however, a negative correlation between knowledge about risk factors and SE for Pap screening was observed in this study. This can be explained by the fear of cancer, which has been described as a psychological barrier [25]. According to this, it should be noted that the Latino population shares a cultural value called “fatalism”; therefore, this population believes that “nothing can be done” about cancer, which acts as a barrier to accessing screening [42–44]. Women with high fatalism tendencies have a more negative attitude toward the early diagnosis of CC, and their participation rate in screening programs is low [42].

Beliefs about CC have been an important topic of research [45–47], and they were one of the main predicting factors for SE in this study, specifically using the barriers and benefits dimensions of the questionnaire. The Health Belief Model is a framework that establishes five components explaining the health behaviors; it was used to assess CC screening in this case [46,48–50]; two of the five components are barriers and benefits. Some barriers included the fear of the screening [8,25,51], embarrassment about discomfort experienced during the screening process [25,51] and disclosing sexual history [52]. The results also demonstrate that beliefs about CC screening and SE are positively correlated. If women perceive low barriers and/or high benefits of CC screening, they will feel self-efficacious and will therefore undergo screening. This has been demonstrated in a previous study [53]. Scholars have described educational workshops as efficient interventions for increasing adherence to the Pap test [11]; however, it is crucial to elucidate the components that should be included in these workshops. According to the results, including aspects that decrease the barriers, improve perceptions about the benefits, and address the issue of risk factors with caution could be promising components for these workshops.

Scholars have described personal screening history and perception of CC as factors related to SE [52]. This study found that participation in breast cancer screening predicted SE for Pap screening. Therefore, it is an important factor in promoting an increase in adherence to CC screening. Participation in breast cancer screening is one of the variables that is considered a part of the interaction, i.e., contact with the health care system is a good predictor of adherence to the guidelines of the screening test [54,55]. Poor access routes to health facilities are an aspect related to poor CC screening [56]; therefore, patient navigation is one of the theoretical frameworks that exhibited positive results in interventions to increase adherence to screening [57–60].

Better family functioning has been associated with different health outcomes [61–64]. Regarding family Apgar as a predictor of SE for Pap screening, scholars posit that family could influence an individual's decision about screening [25], and the lack of spousal or family support could hinder participation in screening [8]. A recent Indonesian study conducted in a rural area revealed that help from husbands had a direct impact on the use of Pap screening, and SE played a mediating role in the relationship between help from husbands and the use of visual inspection with acetic acid.

5. Conclusions

Several factors influence access along the pathway to CC screening, and no single factor could entirely explain the observed patterns of cervical screening. To administer as many CC screening as possible, achieve effective interventions, and reach optimal coverage rates, it is necessary to consider social determinants, collaborate with other cancer screening programs, and work toward the beliefs of the population.

Abbreviations

CC, cervical cancer; Pap, Papanicolaou test; WHO, World Health Organization; SE, self-efficacy; PMP, preventive medicine program; HCP, health care professionals.

Availability of Data and Materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Author Contributions

ACYC, MTU and OP designed the research study. ACYC and MTU performed the research. OP provided help and advice on analyzed the data. ACYC, MTU and OP wrote the manuscript. All authors contributed to editorial changes in the manuscript. All authors read and approved the final manuscript.

Ethics Approval and Consent to Participate

The project was approved by the scientific ethics committee of the Southeast Metropolitan Health Service and each woman signed an informed consent.

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Conflict of Interest

The authors declare no conflict of interest.

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